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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,330	12/20/2001	Isabelle Rollat	05725.0922-00	5705
22852	7590	10/29/2008		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER YU, GINA C	
			ART UNIT	PAPER NUMBER
			1611	
			MAIL DATE	DELIVERY MODE
			10/29/2008 PAPER	

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/023,330  
Filing Date: December 20, 2001  
Appellant(s): ROLLAT ET AL.

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MARK SWEET  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on August, 5, 2008, appealing from the Office action mailed on July 2, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct. As appellant has pointed out, claims 281-289 were inadvertently omitted from rejection by typographical error. Since claim limitations of claims 194-202, which are analogous to claims 281-289, were addressed in the discussion of the rejection, it is viewed proper to reinstate these claims to the rejection here.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5019377	TORGERSON ET AL.	5-1991
6013722	YANG ET AL.	1-2000

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 167, 168, 171, 172, 174, 175, 177, 178, 180, 181, 185-191, 193-203, 205-208, 210-216, 218-228, 230-240, 242-245, 247-253, 255-258, 260-266, 268-278, 280-290, 292-302, 304-307, and 309-311 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torgerson et al. (US 5019377) in view of Yang et al. (US 6013722).**

Torgerson teaches using low glass transition temperature (0-80 °C) adhesive polymers as hair holding polymers to make shampoos and conditioners. See abstract. The reference teaches that shampoos typically comprise 1-25 % of the adhesive polymer and 5-60 % of a synthetic surfactant. See col. 11, lines 28 - 48. See claims 167, 168, 171, 172, 174, 175, 177, 178, 180, and 181. The reference also teaches that adding cationic surfactants such as quaternary ammonium salts at a level ranging from 0.01-10 % is convention and well known to one skilled in the art. See col. 11, line 49 -

col. 12, line 3. See instant claims, claims 168, 172, 175, 177, and 181. Other conventional additives of instant claim 195 are also taught therein. The hair holding polymers are said to comprise one or more monomer components having homopolymers with relatively low glass transition temperatures, with at least one monomer component being selected from acrylate ester or methacrylate esters. See col. 3, lines 17 -56. The preferred (meth)acrylate esters include butylacrylate, n-butylmethacrylate, 2-ethylhexylacrylate, or the mixture thereof. See col. 4, lines 31 -42. The reference teaches in col. 4, lines 17-31:

In addition, if relatively hydrophobic copolymer is desired (e.g., for use in shampoos and conditioners), relatively hydrophobic monomers are utilized. Thus, simple manipulation of the weight ratios of the monomers during synthesis of the copolymers and appropriate selection of the relative hydrophilicity/hydrophobicity of the monomers utilized followed by analysis of the resulting copolymers' single glass transition temperatures, permits easy synthesis of copolymers useful in the present invention having the desired combination of single glass transition temperature and solubility.

The reference also teaches that the hair holding polymers have various applications including topical compositions, beauty mask, and adhesives. See col. 6, lines 60 -68. As for claims 168, 172, 175, 178, and 181, the reference teaches that conditioners preferably comprise a lipid vehicle material such as cetyl alcohol and stearyl alcohol (conditioning components) and a cationic surfactant.

The reference lacks a specific exemplification of the preferred copolymer, cross-linkers, and pH.

Yang et al. teach a pressure sensitive adhesive emulsion (cosmetically acceptable medium) comprising 50-90% n-butyl acrylate, 10-50% 2-hydroxy ethyl

methacrylate, and 2-ethyl hexyls acrylate, and optionally a cross-linking agent. Divinylbenzene multifunctional ranitidine amides are taught as the cross-linking agents. The adhesive has a pH between 1 and 7. The adhesives are taught as water-resistance and as imparting low haze to products comprising the adhesives. See abstract; col. 2, lines 20-33; col. 3, line 25- col. 5, line 55; col. 13, line 60-col. 16, line 16.

As for claims 177, 178, 180, and 181, the claimed copolymer comprises at least one 30-40 % of n-butyl acrylate. While the Yang reference teaches 50-90 % concentration of the monomer, varying the weight ratio of the monomer would have been within the skill of the art. Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). It is viewed obvious to have found optimal or workable weight ratio of the monomers taught in Yang, particularly in view of Torgerson, because Torgerson teaches that it requires a "simple manipulation" to vary the weight ratio of the monomers during the synthesis of the copolymer to select appropriate solubility of the polymer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the hair styling composition of Torgerson by substituting the adhesive polymer with the adhesive copolymer comprising n-butyl acrylate/2-hydroxy ethyl (meth)acrylate/2-ethyl hexyl acrylate monomers as motivated by Yang

because 1) Torgerson teaches using relatively hydrophobic acrylate copolymers to make shampoo and conditioners, wherein n-butyl acrylate and 2-ethyl hexyl acrylate are preferred; 2) Yang teaches that its adhesive copolymer imparts low haze thus clarity to the final products. The skilled artisan would have had a reasonable expectation of successfully producing clear shampoos and conditioners with hair styling properties.

The recitation "reshapable" denotes a physical property of the claimed composition. Whether a composition imparts reshapable styling effect on hair depends on the active components that make up the composition. It would have been obvious to the skilled artisan that, the composition of the combined references, which comprise the surfactants of Torgerson<sup>1</sup> and the adhesive polymer of Yang, provides a reshapable effect on the hair as claimed by appellant.

#### **(10) Response to Argument**

Adhesive copolymers are used in variety of products including hair styling products, film forming skin cosmetics, and binders and coating materials, adhesives, etc. See Torgerson, col. 6, lines 60-69. Since Torgerson teaches using adhesive copolymers in hair styling products and Yang teaches advantageous property of the particular mixture of those monomers (i.e., clarity in final products), it is viewed that using the Yang adhesive copolymers to make hair styling products as appellant has done in this case would have been obvious to one of ordinary skill in the art.

Appellant argues that that there would be no expectation of success in using

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1. The previous rejection statement inadvertently referred to Engel, a previously cited reference.

Yang copolymer in a composition. Appellant asserts that no motivation is found in substituting the Togerson adhesive copolymer with Yang because Togerson requires its polymers made of acrylate or methacrylate amide, which is not required in the Yang copolymer. However, it is viewed that the expectation of success does not hinge on the use of amide monomer because Yang already teaches the set of monomers which makes effective adhesive copolymers.

Appellant also asserts that Yang fails to indicate functional equivalence of n-butyl acrylate/2-ethyl hexyl acrylate copolymer and n-butyl acrylate/2-hydroxy ethyl (meth)acrylate copolymers. The argument is unpersuasive because the reference teaches these monomers are used for the same purpose of making adhesive copolymers. The monomers n-butyl acrylate and 2-ethyl hexyl acrylate are already taught in Togerson as suitable monomers which make adhesive copolymers for hair styling products, while Yang teaches an adhesive copolymer comprising n-butyl acrylate and 2-ethyl hexyl acrylate or 2-hydroxy ethyl (meth)acrylate, indicating the functional equivalency of the two monomers.

Appellant also asserts that the reference fails to teach expectation of success in obtaining a composition providing a reshapable hair styling effect. As discussed in the final Office action dated July 2, 2007, the fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See Ex parte Obiaya, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). In this case,



appellant's adhesive hair styling copolymer is taught and suggested by Yang. The recited reshapable effect of the composition that is made as motivated by the combined teachings of the references would have been immediately apparent to the skilled artisan.

Appellant argues that the adhesive compositions of the two prior arts share different properties. Appellant asserts that, while Torgerson copolymers are removable by water or by shampooing, Yang teaches that its copolymers are "water-resistant", "water-insensitive", and "resistant to the effects of high humidity". The argument is unpersuasive because Torgerson teaches the suitable solubility of the copolymers for hair styling products, which should be relatively hydrophobic to make shampoos and conditioners, according to the reference, and further indicates that only a simple manipulation well known in the art is required to make the adhesive copolymers hydrophobic. See col. 4, lines 17-31. Thus one of ordinary skill in the art would have been motivated and able to modify the teachings of the references and make the adhesive copolymers of Yang suitable for hair styling products.

Appellant also asserts that the modification of the prior arts would not have been obvious because Torgerson teaches substantially linear copolymer chain "having little or no cross-linking of the copolymer", whereas Yang copolymer may contain "optionally multifunctional cross-linking agent". Appellant's interpretation that Yang necessarily requires cross-linking copolymer is not an accurate interpretation of the teaching because the reference indicates that cross-linking agents may be optionally present.

The present claim limitations are still viewed obvious because Torgerson also does not totally exclude cross-linked copolymer. Examiner asserts that appellant's arguments are unpersuasive.

Examiner asserts that Torgerson and Yang teach and suggest the present invention, and the obviousness rejection is proper and should be maintained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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